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REMARKS/ARGUMENTS

The Applicant thanks the Examiner for clarifying the drawing corrections requested.

With respect to the limitations in claim 12, corrected drawings for Figures 1 and 2 are submitted that show conventional electrodes 30', 30" and 30''' . For example, these features are disclosed in paragraphs [0023] and [0024], which were amended in an Amendment dated December 11, 2002. Applicant submits that no new matter has been introduced by the amendment to Figures 1 and 2. Entry of the corrected drawings is requested.

With respect to the limitation in claim 18, claim 18 has been amended to delete the word "all." Thus, the drawings of Figures 1, 2 and 5 show all of features of amended claim 18. Specifically, the Figures show at least one electrical connection made by wire bonding. Every feature of the invention specified in the claims is now shown in the drawings.

Claims 12, 13 and 17 were amended to correct formalities and to make explicit that which was inherent in previously presented claim 12. Specifically, as amended, claim 12 explicitly sets out that the conductive die pad "consists of a conductive material" and that the first electrodes of the first and second die are "mounted and" electrically connected to opposite major surfaces of the conductive die pad. The conductive die pad is defined in the specification in paragraph [0006] as being a lead frame mounting pad of a copper or other conductive material. Furthermore, an example of a conductive die pad is provided in paragraph [0022] of the specification. Thus, amending claim 12 to include a conductive die pad "consisting of a conductive material" and that the dice are "mounted" thereon is merely expressing an inherent feature of a conductive die pad as that term was defined within the specification and does not further limit the claim as previously presented.

However, the amendment to Claim 12 serves to clearly distinguish the differences in functionality between the conductive die pad of claim 12 and the interface board of Kim. Specifically, the conductive die pad is merely an electrically conductive material that provides two opposite surfaces for mounting each of the two dice, while directly electrically connecting the first electrodes of the first and second semiconductor dice together. In contrast, the interface board 21 of Kim has an insulating substrate 31 (abstract; col. 2, ll. 1-26; col. 3, ll. 1-39), which prevents the electrodes of the dice on the opposite surfaces of the substrate from being directly electrically connected. The erroneous use of cross-hatching in Fig. 2 of Kim should not be

confused as indicating electrical conductivity, because this would be at odds with the specification and the entire purpose of the interface board as disclosed in col. 3, ll. 11-30. (The dies 22, 23 are also erroneously shown as cross-hatched, for example.) Fig. 3 shows a detailed view of the interface board 21 showing the insulating substrate 31. Indeed, a tie bar 41 is used to connect the wiring diagram on one surface with the wiring diagram on the opposite surface of the interface board 21. Thus, the distinction previously made by the Applicant in the Response of Jul. 3, 2003 is not merely semantics. The interface board 21 of Kim is totally different functionally, achieving a completely different result, than the conductive die pad of claim 12.

With respect to the rejection of claims 12, 15 and 19 as being unpatentable over Golwalkar et al. in view of Kim, the combination of Golwalkar et al. and Kim fails to establish to *prima facie* obviousness of amended claim 12. Specifically, in order to establish *prima facie* obviousness, each & every limitation of the claimed invention must be taught or suggested by the applied references. The combination of Golwalkar et al. and Kim fails to teach each & every limitation of claim 12. Golwalkar et al. fails to teach or suggest electrodes of first and second semiconductor dice mounted and electrically connected to opposite surfaces of a conductive die pad "...such that said electrode of said first semiconductor die is electrically connected by said conductive material of said conductive die pad to said first electrode of said second semiconductor die and to one of said second plurality of leads or one of said first plurality of leads." Indeed, the integrated circuits of Golwalkar et al. are not electrically connected to the die pad. Instead, Golwalkar et al. teaches use of an insulating adhesive bond between the bottom, electrodeless surface of integrated circuits and the die pad. The integrated circuits are conventionally bonded, using wiring bonds, to connect electrodes located on the free, top surfaces of the integrated circuits.

As discussed previously, Kim neither teaches nor suggests the limitations missing from Golwalkar et al. Specifically, the interface board 21 of Kim does not consist of a conductive material, but of an insulating substrate 31. Thus, Kim fails to teach or suggest first electrodes of first and second semiconductor dice mounted and electrically connected to opposite surfaces of a conductive die pad "...such that said first electrode of said first semiconductor die is electrically connected by said conductive material of said conductive die pad to said first electrode of said second semiconductor die and to one of said second plurality of leads or one of said first plurality

of leads.” Therefore, the applied references, alone or in combination, neither teach nor suggest each and every limitation of claim 12, and *prima facie* obviousness is not established.

Claims 13-19 depend from claim 12, incorporating all of the limitations of claim 12 and additional limitations. Thus, claims 13-19 are non-obvious over the combination of Golwalkar et al. and Kim.

With regard to the rejection of claims 13, 14 and 16 under 35 U.S.C. §103(a) over Golwalkar et al. and Kim as applied to claim 12 and further in view of Munoz et al., claims 13, 14 and 16 depend from claim 12, incorporating all of the limitations of claim 12 and additional limitations. Claim 12 is non-obvious over the combination of Golwalkar et al. and Kim; therefore, claims 13, 14 and 16 are non-obvious over the combination of Golwalkar et al., Kim. Although claims 13, 14 and 16 are rejected based on the additional teachings of Munoz et al., the Applicant suggests that the additional teachings neither teach nor suggest the limitations missing from Golwalkar et al. and Kim; therefore, the applied prior art fails to establish *prima facie* obviousness under 35 U.S.C. §103. Specifically, Munoz et al. neither teaches nor suggests connecting first and second semiconductor dies “...such that said first electrode of said first semiconductor die is electrically connected by said conductive material of said conductive die pad to said first electrode of said second semiconductor die and to one of said second plurality of leads or one of said first plurality of leads.” Thus, the combination of references neither teaches nor suggests each and every limitation of claims 13, 14 and 16; therefore, the applied references fail to establish *prima facie* obviousness under 35 U.S.C. §103.

With regard to claims 17 and 18, which are rejected as unpatentable over Golwalkar et al., Kim and Munoz et al. as applied to claims 12-14 and further in view of Adishian, the combination of references fails to teach or suggest each of the limitations of claims 17 and 18. Claims 17 and 18 depend from claim 12, incorporating all of the limitations of claim 12. Although claims 17 and 18 are rejected based on the additional teaching of Adishian, the Applicant suggests that the additional teachings of Adishian neither teach nor suggest the limitations missing from Golwalkar et al., Kim and Munoz et al. Specifically, Adishian fails to teach or suggest electrodes of first and second semiconductor dice being mounted and electrically connected to a die pad “...such that said first electrode of said first semiconductor die is electrically connected by said conductive material of said conductive die pad to said first

electrode of said second semiconductor die and to one of said second plurality of leads or one of said first plurality of leads." Thus, the applied references fail to establish *prima facie* obviousness under 35 U.S.C. §103.

The combined teachings of all of the applied references fail to teach or suggest to one of ordinary skill in the art each and every limitation of claim 12, the independent claim, and the additional limitations of the dependent claims.

Even if, *arguendo*, *prima facie* obviousness is established, the Applicant suggests that Kim teaches away from Golwalkar et al. and the limitations of claim 12. Specifically, Golwalkar et al. teaches a conductive die pad disposed between two integrated circuits. Kim teaches the use of an interface board 21 having an insulating substrate 31 to overcome the limitations of the prior art, which required aligning electrodes of semiconductor devices in a mirror image. Thus, Kim teaches away from disposing a conductive die pad between two semiconductor devices. As the conductive die pad is a limitation in claim 12; therefore, one of ordinary skill in the art would not look to Kim to modify the teachings of Golwalkar et al. to achieve the semiconductor device of claim 12.

Entry of the amendments to the claims is requested, because the amendments put the claims in condition for allowance or in better condition for appeal. A notice of appeal is filed herewith. The Applicant respectfully requests that the Examiner withdraw all objections and rejections to the pending claims.

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